

Chemistry Course Outcomes

(Under B.Sc. In Physical Sciences And B.Sc. In Life Sciences Programs.)

- **Understanding Fundamental Principles:**

Students learn about atomic structure, the nature of chemical bonds, molecular geometry, and the periodic trends of elements.

- **Chemical Reactions and Equilibrium:**

Develop knowledge of chemical reactions, quantitative and qualitative methods to describe them, and the dynamics of physical and chemical equilibrium.

- **Thermodynamics:**

Gain an introduction to the concept of chemical thermodynamics, understanding the energies involved in driving chemical reactions.

- **Experimental Interpretation:**

Ability to apply conceptual knowledge and interpret physical and chemical phenomena through experimental evidence.

- **Laboratory Skills:**

Acquire and master laboratory skills using modern methods and equipment for synthesizing, characterizing, and analyzing chemical compounds.

- **Quantitative & Qualitative Analysis:**

Apply main qualitative and quantitative strategies, including volumetric and gravimetric methods, to determine analytes.

- **Instrumental Analysis:**

Utilize instrumental techniques for chemical analysis and evaluate the results obtained from these analyses.

Advanced & Specialized Outcomes:

- **Organic and Biological Chemistry:**

Students may focus on the physical and functional aspects of organic chemistry and understand the principles of biological chemistry.

- **Materials and Physical Chemistry:**

Develop knowledge in areas such as the properties of materials, the states of matter, and solid-state chemistry.

M. Anandani
17/9/25

(HOD Chemistry)

Sunil
17/09/2025
Principal
Govt. College,
Mangali (Hisar)

BOTANY

Program/course outcomes

1. Fundamental Knowledge of basic biological sciences, life sciences and botany.
2. Basic understanding of cell biology, diversity of microbes and lower cryptogams.
3. Practical Knowledge of laboratory standards
4. Understanding of molecular biology, cytogenetics, microbiology, biochemistry etc.
5. Personal growth by connecting with the people, ideas, books, media and technology.

Sajeev

17.9.2025

Asst. Prof.

Botany

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zoology program prepares students with a foundational understanding of animal sciences, including animal diversity and ecology. It trains students in both fundamental and applied aspects of the field, from laboratory techniques to conservation management.

BSc I DSC Animal Diversity- I

- CO1. Understands about Classification of Phylum Protozoa to Echinodermata with taxonomic keys.
- CO2. Understands Basic concepts of Taxonomy, Animal Kingdom and Phylum Protozoa
- CO3. Understands general taxonomic rules on animal classification.
- CO4. Imparts conceptual knowledge of vertebrates, their adaptations and associations in relation to their environment.
- CO5. Understands about Classification of phylum Protochordates to Mammalia.
- CO6. Understands about Complex Vertebrate Interactions

BSc III DSC Applied Zoology

- CO1. Understands concepts of Various interactions like Parasitism, Symbiosis and Commensalism.
- CO2. Understands concepts of fisheries, fishing tools and site selection.
- CO3. Understands about parasites and epidemiology of parasites in human and animals.
- CO4. Imparts knowledge of non-beneficial insects.
- CO5. Interaction of insect vectors with humans and spread of diseases.
- CO6. Managements and control of vector and vector born diseases.
- CO7. Types of breeds in animal farming and poultry farming along with their management.
- CO8. Understanding of in vitro culturing of organisms and production of transgenic animals.
- CO9. Aqua culture systems, induced breeding techniques and post harvesting techniques.
- CO10. Use of recombinant DNA technology in genetic manipulations and in a variety of industrial processes.

BSc I B.A I SEC Apiculture

- CO1. Understands about History, Classification and Biology of Honey Bees
- CO2. Understands concepts of Social Organization of Bee Colony Artificial Bee rearing (apiary)
- CO3. Knowledge about honey bee and bee rearing.
- CO4. Knowing beehives, bee keeping equipment, methods of extraction of honey and processing of honey.
- CO5. Understands about Bee enemies and diseases.
- CO6. Imparts knowledge about the various Products of Apiculture Industry and its Uses Honey, Bees Wax, Propolis and Pollen etc.
- CO7. Imparts knowledge of Bee Keeping Industry- Recent Efforts.
- CO8. Imparts knowledge of Bee economy and entrepreneurship in apiculture.

B.A. II SEC Vermiculture and Vermicomposting

- CO1. Understands about Introduction, definition, history, general characters of Annelida.
- CO2. Understands about Systematic position of earthworm, habits and habitat of earthworm.
- CO3. Imparts knowledge about Diversity of earthworms, collection of earthworms and preservation of earthworms.
- CO4. Imparts knowledge about Role of earthworm in maintenance of soil structure and their role as recycling, reduce, reuse, restore (4R's).
- CO5. Understands about Choosing right species of earthworm.
- CO6. Understands about Earthworm biology and rearing.
- CO7. Imparts knowledge about Key to identify the species of earthworm their role on ecology, an eco friendly approach to sustainable agriculture
- CO8. Imparts knowledge about Preparation of vermicompost, small scale earthworm farming for home garden, large scale commercial composting.
- CO9. Imparts knowledge about the Properties of vermicompost and vermivash, application on crop plants economic development and self-employment

BSc I B.Com I B.A. I VAC Environmental studies

- CO1. Imparts knowledge about Multidisciplinary nature of environmental studies
- CO2. Understands about Definition, scope and importance. Need for public awareness.
- CO3. Understands Concept of an ecosystem, Structure, function of an ecosystem, Producers, consumers and decomposers.
- CO4. Understands Concept of Energy flow in the ecosystem. Ecological succession. Food chains, food webs and ecological pyramids.
- CO5. Knowledge about Biodiversity and its conservation. Value of biodiversity, India as a mega-diversity nation.
- CO6. Imparts knowledge about Hot-spots of biodiversity. Threats to biodiversity: Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity.

Vijayanti
17/09/2025

Dr. Vijayanti Jakhar
Assistant Professor of Zoology

Signature
17/09/2025

PRINCIPAL
G.C. Mangali